

Please add the following new claims:

Sub. F1> --77. A component transfer system for transferring at least one component that has a fiducial marker thereon that indicates an orientation of a plurality of leads protruding from the component, said component transfer system comprising:

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a component feed source supporting the at least one component;
a component transfer mechanism oriented to retrieve the at least one component from the component feed source and place said retrieved component in a transferred area such that the fiducial marker on said retrieved component is in a detectable location;
a fiducial marker detector oriented to detect the detectable location of the fiducial marker on said retrieved component and generate alignment data for said retrieved component;
and

a controller coupled to said fiducial marker detector for receiving said alignment data therefrom for said retrieved component and containing instructions which, when executed, cause said controller to compare said alignment data for said retrieved component to desired alignment data indicative of desired lead orientations, said controller sending realignment signals to said component transfer mechanism for said retrieved component wherein the alignment data therefor differs from said desired alignment data to cause said component transfer mechanism to realign said retrieved component when the alignment data therefor differs from the desired alignment data.

78. The component transfer system of claim 77 wherein the component transfer mechanism comprises a pick and place machine.

79. The component transfer system of claim 78 wherein said pick and place machine comprises:

a pick spindle having a plurality of placement heads; and
a placement spindle having a plurality of placement heads.

80. The component transfer system of claim 77 wherein said component feed source comprises a continuous track of trays operably supported by continuous tape reels.

81. The component transfer system of claim 77 wherein said component feed source comprises a source of components and at least one serial feed track extending from said component feed source to said component transfer mechanism.

Sub. F2>

82. A component transfer system for transferring at least one component that has a fiducial marker thereon that indicates an orientation of a plurality of leads protruding from the component, said component transfer system comprising:

a component feed source supporting the at least one component;

a component transfer mechanism oriented to retrieve the at least one component from the component feed source and place said retrieved component in a transferred area such that the fiducial marker on said retrieved component is in a detectable location;

a fiducial marker detector oriented to detect the detectable location of the fiducial marker on said retrieved component and generate alignment data for said retrieved component; and

a controller coupled to said fiducial marker detector for receiving said alignment data therefrom for said retrieved component and containing instructions which, when executed, cause said controller to compare said alignment data for said retrieved component to desired alignment data indicative of desired lead orientations, said controller sending realignment signals to said component transfer mechanism for said retrieved component wherein the alignment data therefor differs from said desired alignment data to cause said component transfer mechanism to move said retrieved component to a discard area when the alignment data therefor differs from the desired alignment data.

83. The component transfer system of claim 82 wherein the component transfer mechanism comprises a pick and place machine.

84. The component transfer system of claim 83 wherein said pick and place machine comprises:

a pick spindle having a plurality of placement heads; and

a placement spindle having a plurality of placement heads.

Sub. p37

85. A component transfer system comprising:

a plurality of components, each component having two sides that are substantially parallel to each other and that each have an equivalent number of leads protruding therefrom, and wherein each component has a first marker that superficially alters a physical appearance of the component to indicate a predetermined orientation of the leads, said plurality of components supported in a component feed source;

a pick and place machine oriented to retrieve a component from the feed source and place the retrieved component in a transfer area;

a marker detector oriented to detect the marker on the retrieved component and generate alignment data that is indicative of the position of the marker within the transfer area; and

a controller in communication with said marker detector for receiving said alignment data therefrom and containing instructions which, when executed by the controller, cause the controller to compare the alignment data received from the marker detector and compare it to predetermined alignment data to ascertain whether the retrieved component is correctly aligned within the transfer area.

86. The system of claim 85, further comprising a continuous serial track extending from said component feed source to said pick and place machine.

87. The system of claim 86, further comprising a plurality of component trays serially disposed along the continuous serial track.--

concluded